

Response dated September 24, 2004

Reply to final Office Action dated June 24, 2004

REMARKS

At the outset, the Examiner is thanked for the thorough review and consideration of the pending application. The Non-Final Office Action dated June 24, 2004 has been received and its contents carefully reviewed.

Claims 1-17 are pending in the current application. Claims 18-33 are withdrawn.

In the Office Action, claims 1-4, 6-8, and 12-17 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicants' Figures 1-2E and the description on pages 2-4 of Applicants' specification (hereinafter "ARA") in view of AGFA "PEDOT Coating Solutions and Screen Printing Pastes Product" (hereinafter "AGFA"). Claims 5 and 9-11 are rejected under 35 U.S.C. § 103(a) as being unpatentable over the Related Art in view of AGFA and further in view of U.S. Patent 6,038,008 to Kim et al. (hereinafter "Kim").

The rejection of claims 1-17 is respectfully traversed and reconsideration is requested.

Independent claim 1 is allowable over the cited references in that this claim recites a combination of elements including, for example, "an organic conductive layer is on each of the gate and data pad". Independent claim 13 is allowable over the cited references in that this claim recites a combination of elements including, for example, "an organic conductive layer of the pad area".

None of the cited references, considered separately or in combination teaches, discloses or suggests at least this features of the claims. For example, AGFA discusses using the PEDOT screen printing paste "in applications as: reverse buildup E.L. lamps, E.L. lamp pattern with small light emitting areas, transparent electrodes for thin film E.L., transparent conductive lines and paths in displays and electronic circuits." AGFA discusses the use of PEDOT in the context of electroluminescent ("E.L.") lamps only, and where flexibility is desired. AGFA does not

suggest at all that PEDOT is suitable for use in liquid crystal displays such as those of the present application. Liquid crystal displays are not electro-luminescent devices such as those discussed in AGFA, nor are they flexible.

Futhermore, the entire discussion of PEDOT relates to improvements in screen printing technology: "Screen printing technology is common practice in thick film technology for printing conductor patterns in PCB and E.L. lamps."

However, liquid crystal displays according to the related art are formed using sputtering, not screen printing. Thus it would not be obvious to look to screen printing to solve problems that arise in sputtering. In addition, liquid crystal displays of the present invention are thin-film devices.

The only reference to the use of PEDOT in a thin film application is "transparent electrodes for thin film E.L." Again, while liquid crystal displays use thin film technology, they are not in any way electroluminescent. And even thin film E.L. devices are formed using screen printing, not sputtering as is the case with LCD devices according to the related art. The Examiner seeks to combine AGFA which relates to electroluminescent lamps with the ARA relating to liquid crystal devices which are not electroluminescent, and which are structurally incompatible with E.L. devices and which in the related art are formed using different methods. Thus, the references could not be combined without making substantial non-obvious changes to the manufacturing process for LCD devices.

In fact, the Examiner's sole support for the combinability argument is the phrase in AGFA suggesting the use of PEDOT with "transparent conductive lines and paths in displays and electronic circuits." But as discussed earlier, the Examiner has taken this phrase wholly out of context. The AGFA reference discusses either electroluminescent applications or applications

using thick film and screen printing technology. LCD devices are neither electroluminescent, nor, in the embodiments discussed in the ARA, do they use think film or screen printing technology.

Because the structure, manufacture, and application of electroluminescent devices discussed in the AGFA reference are substantially different and are wholly incompatible with that of liquid crystal displays, one of ordinary skill in the art at the time of the invention would not have been motivated to combine the references in the manner alleged by the Examiner.

Notably, it would not have been obvious to one of ordinary skill in the art at the time of the invention presented with the state of the art in LCD devices as described in the ARA and the AGFA reference to combine them to create the invention as claimed.

Accordingly, Applicants submit that claims 1 and 13, and claims 2-12 and 14-17 which depend from claims 1 and 13, respectively, are allowable over the cited references. Applicants believe the foregoing remarks place the application in condition for allowance and early, favorable action is hereby solicited. If the Examiner deems that a telephone conversation would further the prosecution of this application, the Examiner is invited to call the undersigned at (202) 496-7500.

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If these papers are not considered timely filed by the Patent and Trademark Office, then a petition is hereby made under 37 C.F.R. §1.136, and any additional fees required under 37 C.F.R. § 1.136 for any necessary extension of time, or any other fees required to complete the filing of this response, may be charged to Deposit Account No. 50-0911. Please credit any overpayment to deposit Account No. 50-0911. A duplicate copy of this sheet is enclosed.

Dated: September 24, 2004

Respectfully submitted,

By 
George G. Ballas

Registration No.: 52,587
MCKENNA LONG & ALDRIDGE LLP
1900 K Street, N.W.
Washington, DC 20006
(202) 496-7500
Attorney for Applicants